



"RESPONSE UNDER 37 CFR 1.113-  
EXPEDITED PROCEDURE EXAMINING  
GROUP 3618"

DOCKET NO: 243717US3DIV

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
ATSUSHI TABATA : EXAMINER: BOTTORFF, C.  
SERIAL NO: 10/686,861 :  
FILED: OCTOBER 17, 2003 : GROUP ART UNIT: 3618  
FOR: MOVING OBJECT WITH FUEL :  
CELLS INCORPORATED THEREIN AND  
METHOD OF CONTROLLING THE  
SAME

REQUEST FOR RECONSIDERATION

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Office Action dated March 22, 2005, Applicant requests the reconsideration of the final rejection of Claims 28-40 and 44.

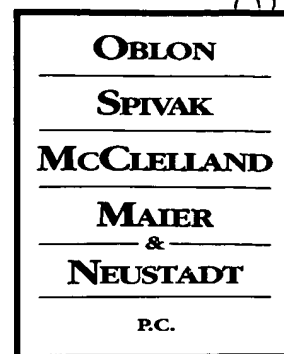
Claims 28-40 and 44 were rejected under 35 U.S.C. §103 as being obvious over Naito in view of JP '516. Applicant had previously explained that in accordance with a feature of the invention set forth in these claims, in a vehicle having a heat engine and a motor supplied by a fuel cell and a secondary battery, a control unit controls the operations of the motor and heat engine, and also controls operations of the fuel cell and secondary battery, according to a driving state of the vehicle.

Applicant had also explained that while Naito discloses an electric vehicle using an electric motor 14 as a power source, the electric motor being supplied with energy by a fuel cell 1 and battery 2, Naito lacks a heat engine and so can provide no teaching of a control unit that controls operations of electric power supplies and power sources – including a heat



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RE: Application Serial No.: 10/686,861  
Applicants: Atsushi TABATA  
Filing Date: October 17, 2003  
For: MOVING OBJECT WITH FUEL CELLS  
INCORPORATED THEREIN AND METHOD OF  
CONTROLLING THE SAME  
Group Art Unit: 3618  
Examiner: BOTTORFF, C

SIR:

Attached hereto for filing are the following papers:

**REQUEST FOR RECONSIDERATION  
W/ ENGLISH TRANSLATION OF JP 50-31516 ATTACHED**

Our check in the amount of \$0.00 is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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engine – according to a driving state of the vehicle. Applicant had additionally explained that JP '516 could not suggest modifying Naito such that the vehicle therein provided with an electric motor supplied by a fuel cell and a battery is further provided with a heat engine, in part because JP '516 describes that the fuel cell is provided as the electric power supply for the motor because high powered batteries are problematic to recharge. Accordingly, JP '516 would not have motivated those skilled in the art to have added a heat engine to the vehicle in Naito, which includes a secondary battery 2, since JP '516 teaches against the combination of a fuel cell and a secondary battery as a power supply in a vehicle having both a motor and a heat engine.

In again rejecting the claims as being obvious over Naito in view of JP '516, the examiner has alleged that “[n]either Naito nor JP 50-31516 suggest that the presence of secondary battery 2 of Naito and a heat engine together would adversely affect such a system.” However, it is respectfully submitted that this is incorrect.

Applicant is at this time submitting an English translation of JP '516. As is described on page 1 of that document:

A problem that had needed to be solved, especially in recent years, is that of atmospheric pollution by the exhaust gases of vehicles; the use of electric power *in place of gasoline as the energy source* has been proposed as a means of solving this problem.

Based on this idea, vehicles using fuel cells have been developed, but these fuel cells become very expensive if one tries to make their outputs large, and they become completely impractical. Up to now, therefore, high-output batteries have been provided to supplement their output, and the motor that provides the motive power source has been driven using [the fuel cells and batteries] together.

It is an undeniable fact, however, that using this kind of construction causes a difficulty in energy supplementation, *which is a problem intrinsic to battery cars*. (Emphasis added).

JP '516 therefore proposes to solve this problem by introducing an engine into the system. The motor and engine work together under high load conditions. As a consequence, "this invention has the effects that boost batteries are not needed" (p. 4).

Thus JP '516 teaches that the combination of a heat engine with an electric motor *avoids the need* for a battery to supply energy to the motor, and solves the problems inherent in the need for batteries for energy supplementation. **Accordingly, JP '516 teaches against the provision of a battery as an energy supply for a motor in a vehicle having a heat engine.** Since it is improper for the examiner to combine references which teach away from their combination (MPEP § 2146(X)(D)(2)), JP '516 cannot properly be relied upon to suggest the incorporation of a heat engine in the vehicle of Naito which includes a battery as a power supply for the motor.

Dependent Claims 29-30 further recite that the control unit has a preference for driving the motor with the secondary battery where the remaining charge of the secondary battery is not less than a predetermined level. There is no description in Naito that the motor is driven with the secondary battery as a working electric power supply in the case where the observed remaining charge is not less than a predetermined level.

Dependent Claim 31 further recites that an insufficiency of electric power of the fuel cell selected as a working electric power supply is compensated with electric power output from the secondary battery in a transient period before the fuel cell ensures a sufficient supply of electric power (see, e.g., the paragraph bridging pp. 96-97). This is not taught or suggested in Naito or JP '516.

Dependent Claims 35 and 38-40 were rejected under 35 U.S.C. §103 as being obvious over Naito in view of JP '516 and Kubo. Claim 35 further recites a drive mode switch that allows a driver to select a specific drive mode requiring a high torque, wherein the high torque condition decision unit determines a high torque requirement condition based on an

operating condition of the drive mode switch. For example, the state of the sport mode switch 163 is used to modify the Engine/EV maps of Figs 8-11 (page 91, lines 3-15). The examiner has recognized that this is not taught in Naito but alleges that it would have been obvious because Kubo "teaches the desirability of providing a vehicle with a drive mode switch." However, the driver operated switch of Kubo manually switches between pure electric vehicle drive (PEV) and different types of hybrid drive (SHV, PSHV). There is no teaching in Kubo that one of these modes requires a higher torque than the other, or that a high torque condition determination is thereby used to control vehicle operation. Claim 35 thus defines over any combination of these references.

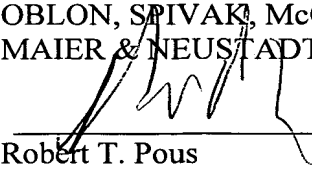
Claim 38 further recites a second motor, a regulation unit that regulates supplies of electric power respectively fed from the fuel cell and the secondary battery to the second motor, and auxiliary machinery that is linked with the heat engine and the second motor, wherein the control unit drives the second motor while the heat engine is at a stop. For example, the second motor 80 is used to drive the auxiliary machinery (Fig. 14, step S140) when the engine is stopped. The second motor 30 of Kubo, on the other hand, is a starter motor which is not described as being linked with auxiliary machinery. Claim 38 thus defines over any combination of these references.

Since Claim 28 is patentable, it is respectfully requested that its dependent Claims 41-43 be included in any patent issuing from the present application.

Applicant therefore believes that the present application is in a condition for allowance and respectfully solicits an early notice of allowability.

Respectfully submitted,

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